

Question 14

(Suggested maximum time: 5 minutes)

(a) The following are algebraic expressions.

$$2x \qquad 3x - 2 \qquad 3x + 2 \qquad 3(x + 2)$$

Complete the table below by writing the correct algebraic expression from the list above next to the corresponding statement. You do not need to use all of the algebraic expressions.

Statement	Algebraic Expression
Multiply x by 3, then subtract 2 from the result.	$3x - 2$
Double x .	$2x$
Add 2 to x , then multiply the result by 3.	$3(x + 2)$

(b) Multiply out and simplify $(3x - 2)(2x - 3)$.

$$\begin{aligned}
 &= 3x(2x - 3) - 2(2x - 3) \\
 &= 6x^2 - 9x - 4x + 6 \\
 &= \boxed{6x^2 - 13x + 6}
 \end{aligned}$$

(c) Factorise $x^2 + 2x - 15$.

$$\begin{aligned}
 &x^2 + 2x - 15 = (x + 5)(\quad) \\
 &\boxed{(x + 5)(x - 3)}
 \end{aligned}$$